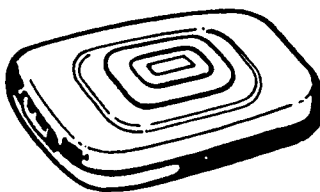


# Service Manual

**PIONEER**  
The Art of Entertainment

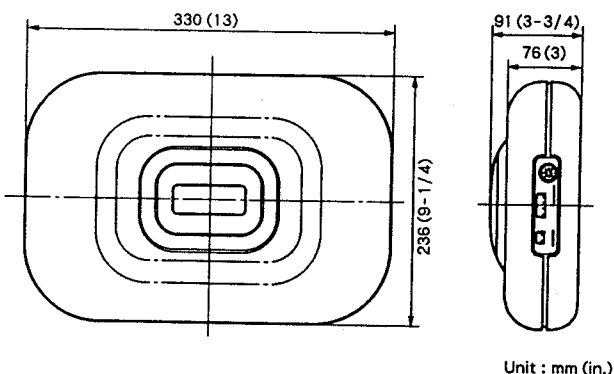


ORDER NO.  
TRT1065

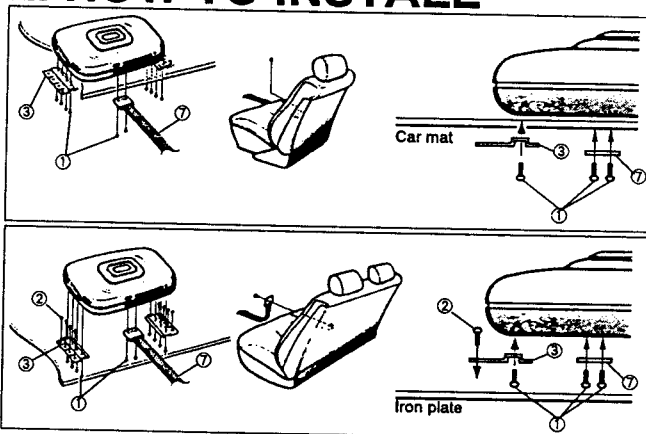
## SURFACE-MOUNT TUNE-UP WOOFER SYSTEM **TS-LX80II<sub>EW</sub>**

### 1. SPECIFICATIONS

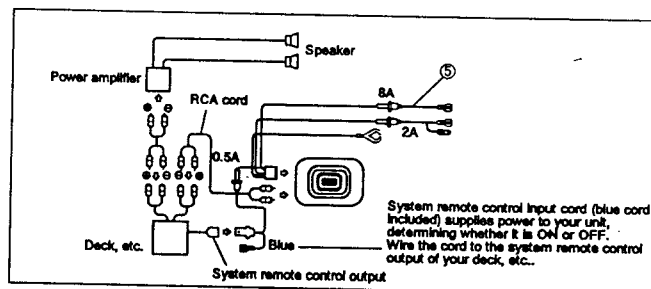
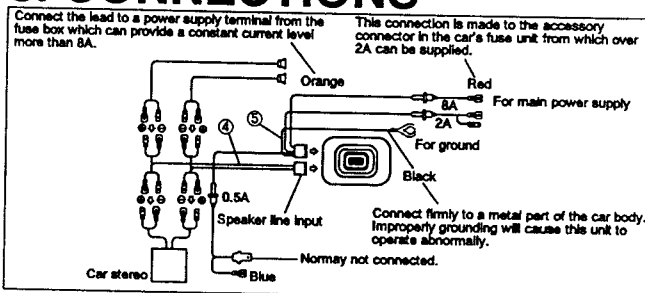
- Speaker specifications
  - Size .....  $\phi 160\text{mm}$  (6-1/2" Dia.)
  - Injection - molded polypropylene cone
  - High compliance, rolled edge
  - Heat-resistant voice coil
  - Strontium magnet: 380g (13.5 oz)
- Amplifier
  - Max. power output ..... 80W
  - Input level (RCA) ..... 70mV+70mV/22k $\Omega$  (at GAIN Max.)
  - (Speaker line) ..... 1.5V+1.5V/8k $\Omega$  (at GAIN Max.)
  - Power source ..... DC14.4V (10.8-15.6V allowable)
  - Grounding ..... Negative ground
  - Max. current consumption ..... 7A
- Speaker system ..... Sealed type
- Cabinet material ..... High density compound resin
- Aluminum die cast
- Size ..... 330mm (W)  $\times$  236mm (D)  $\times$  91mm (H)
- Weight (including accessory parts) ..... 4.10kg (9 lb 1 oz)
- Gross weight (including packaging) ..... 4.50kg (9 lb 15 oz)



### 2. HOW TO INSTALL



### 3. CONNECTIONS



**PIONEER ELECTRONIC CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan  
**PIONEER ELECTRONICS SERVICE INC.** P.O. Box 1760, Long Beach, California 90801 U.S.A.  
**PIONEER ELECTRONICS OF CANADA, INC.** 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada  
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**PIONEER ELECTRONICS AUSTRALIA PTY. LTD.** 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911  
**© PIONEER ELECTRONIC CORPORATION 1993**

I AUG. 1993 Printed in Japan



## 4. EXPLODED VIEWS AND PARTS LIST

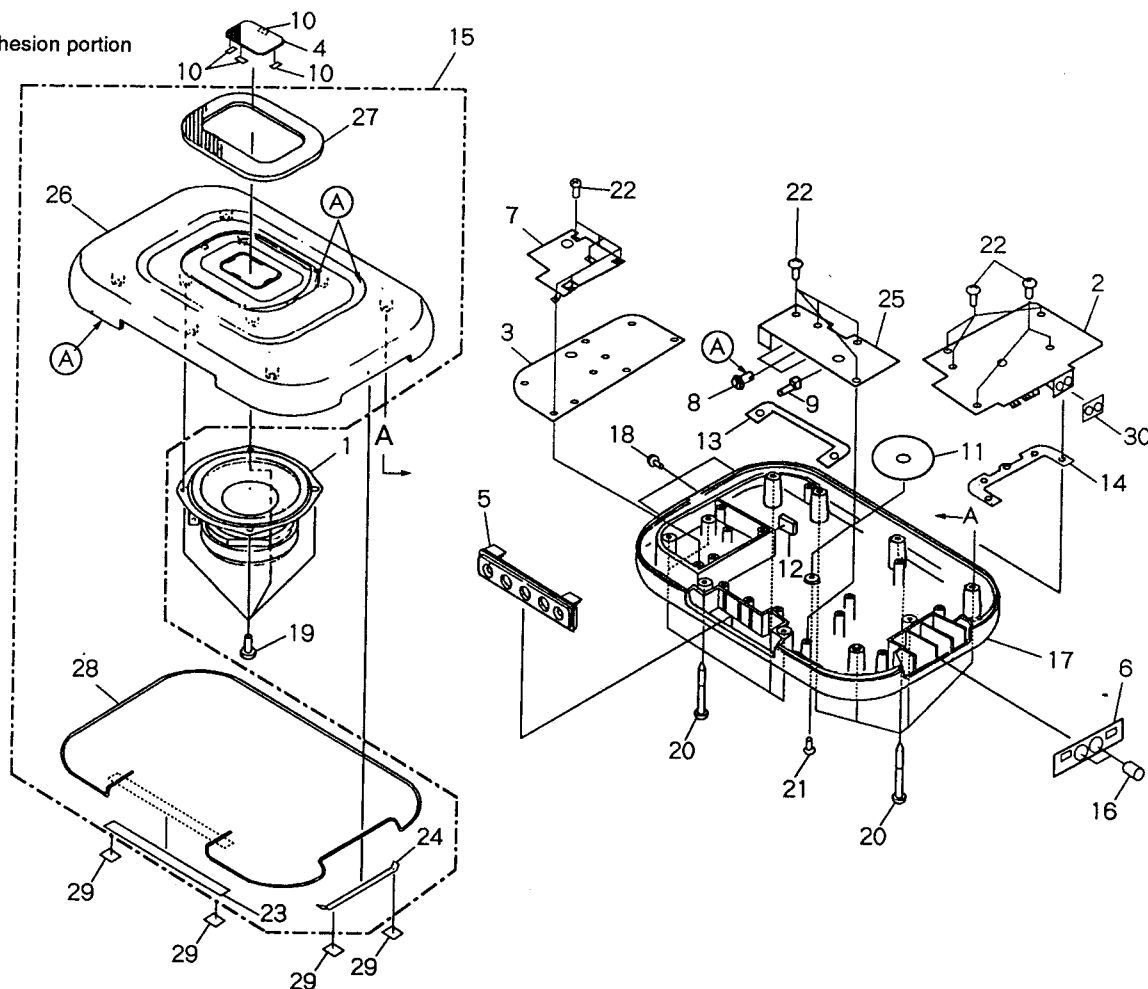
### NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

### Parts List

Mark	No.	Description	Part No.	Remark	Mark	No.	Description	Part No.	Remark
	1	Woofers	16-437AZ	× 1		16	RCA cap	TEB1173	× 2
	2	Control amp unit	TWG1004	× 1		17	Cabinet	TLM1148	× 1
	3	Power amp unit	TWH1010	× 1		18	Screw	BMZ30P100FZK	× 3
	4	Mesh	TLL1206	× 1		19	Screw	BPZ40P100FMC	× 4
	5	Front panel	TNS1007	× 1		20	Screw	BPZ40P160FMC	× 10
	6	Side panel	TNS1010	× 1		21	Screw	BSZ40P120FZK	× 1
	7	Shield plate	TNA1185	× 1		22	Screw	BBZ30P100FMC	× 16
	8	Volume knob	TAA1003	× 3	NSP	23	Packing	TEC1353	× 1
	9	Switch knob	TAA1004	× 1	NSP	24	Packing	TEC1354	× 1
	10	Adhesive	TEB1043	× 4		25	Filter unit	TWN1019	× 1
	11	Cushion	TED1044	× 1	NSP	26	Upper case	TLM1241	× 1
	12	Insulator	TNM1005	× 1	NSP	27	Mesh	TLL1207	× 1
	13	Packing	TEC1351	× 1	NSP	28	Silicon tube	TEB1118	× 1
	14	Packing	TEC1352	× 1		29	Packing	TEC1563	× 4
	15	Upper case assembly	TXK1345	× 1		30	RCA packing	TEE1125	× 1

(A) : Adhesion portion





## 5. PCB PARTS LIST

## NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "©" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560  $\Omega$   $\rightarrow$  56  $\times$  10'  $\rightarrow$  561..... RD1/8PM  $\overline{561}J$

47k  $\Omega$   $\rightarrow$  47  $\times$  10'  $\rightarrow$  473..... RD1/4PS  $\overline{473}J$

0.5  $\Omega$   $\rightarrow$  0R5 ..... RN2H  $\overline{0R5}K$

1  $\Omega$   $\rightarrow$  010..... RSIP  $\overline{010}K$

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k  $\Omega$   $\rightarrow$  562  $\times$  10'  $\rightarrow$  5621..... RN1/4PC  $\overline{5621}F$

Mark	No.	Description	Part No.
------	-----	-------------	----------

**LIST OF ASSEMBLIES**

NSP		CONTROL UNIT	TWX1006
		└ CONTROL AMP UNIT	TWG1004
		└ FILTER UNIT	TWN1019
		POWER AMP UNIT	TWH1010

**CONTROL AMP UNIT****SEMICONDUCTORS**

IC1, IC2	NJM2068S
IC3	M5233L
Q2	2SA1048
Q4	2SC2060
Q1, Q3	2SC2458

D9	RM10-LF-D2K
D8	ERA15-02VH
D1, D3-D7, D11	1SS176
D2	RD6R8JS
D10	RD9R1JS

**COILS**

L2	TTF1004
L1	TTF1005
L3	TTF1006

**CAPACITORS**

C21, C23	CEA102M10L2
C18	CEA102M16L2
C20	TCH1126
C19	TCH1109
C1-C4	TCH1104
C9	CEA010M50L2
C7, C10	CEA100M50L2
C13, C24	CEA101M10L2
C17	CEA101M16L2
C12	CEA220M50L2

Mark	No.	Description	Part No.
------	-----	-------------	----------

	C25		CEA471M10L2
	C22		CEA471M16L2
	C5, C6, C8		CCCSL101J50
	C11, C14		CKCYB821K50
	C15, C16		CKCYF103Z50

**RESISTORS**

ALL RESISTORS	RD1/4PS□□□JL
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**OTHERS**

JK1	RCA JACK L	TKB1003
JK2	RCA JACK R	TKB1004
	RCA FIXING STEEL	TNA1257
CN4	CONNECTOR	TKS1013
CN5	CONNECTOR	TKS1018

CN3	CONNECTOR	JKS1019
CN1	CONNECTOR	TKS1045
CN2	CONNECTOR	TKS1046

**FILTER UNIT****SEMICONDUCTORS**

IC101-IC103	NJM2068S
D101	SLH-34VC3F

**SWITCH**

SW101	CSG-207
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**CAPACITORS**

C103	CEA010M50L2
C108, C110	CQMA123J50
C106, C107	CQMA332J50
C109, C111	CQMA562J50
C104, C105	CCCSL101J50
C101, C102	CKCYF103Z50

**RESISTORS**

VR103	TSH1003
VR101, VR102	TSH1004
OTHER RESISTORS	RD1/4PS□□□JL

**OTHERS**

BN101	CORD	TDC1637
CN102	CONNECTOR	TKS1047
CN103	CONNECTOR	TKS1048

Mark	No.	Description	Part No.
------	-----	-------------	----------

**POWER AMP UNIT****SEMICONDUCTORS**

IC201	UPC1225H
IC202	HD7402P
Q201	2SC3422
Q202	2SD718
Q203	2SB688

Q204, Q205	2SC2458
Q206	2SA1048
Q207	2SC2655
Q208	2SA965
Q209, Q210	2SC4131

Q211-Q213	2SC2001
D203, D204, D206, D207, D212, D213,	1SS176
D216-D219	
D205	RD9R1ES

D209	03P2M
D210	RD5R6JS
D211	RD6R8JS
D214	FMG-22S
D215	FMG-22R

**RELAY**

RL201	TSR1002
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**COIL AND TRANSFORMERS**

L202	TTF1001
T2	CTH-061
T1	CTH-076

**CAPACITORS**

TH201	TCX-001
C201	CEA47M16NPLL
C202, C223, C224	CQMA473K50
C203	CEA221M10L2
C204	CCCSL330J50

C205	CQMA683K50
C207	TCH1101
C211	CEA101M10L2
C231	CEA102M16L2
C212, C219, C237	CEA331M16L2
C213, C214, C218, C220, C238, C240,	CQMA104K50
C242	

C215, C216, C232, C233	TCH1099
C217	CEA100M16LL
C221	CQMA102K50
C222	CQMA103K50

C225, C228	CQMA332K50
C226, C227	CQMA123K50
C235, C236, C239	CCG-081
C241	TCH1100
C235, C236	CQMA474K50

Mark	No.	Description	Part No.
------	-----	-------------	----------

**RESISTORS**

R208, R209	RS1LMF2R2JLJL
R210, R211	RS2LMFOR47JLJL
R253	RS1V222JLJL
R238, R239	RS2LMF4R7JL
R252	RS1V2R2JL

R228	RS1V102JL
OTHER RESISTORS	RD1/4PS□□□JL

**OTHERS**

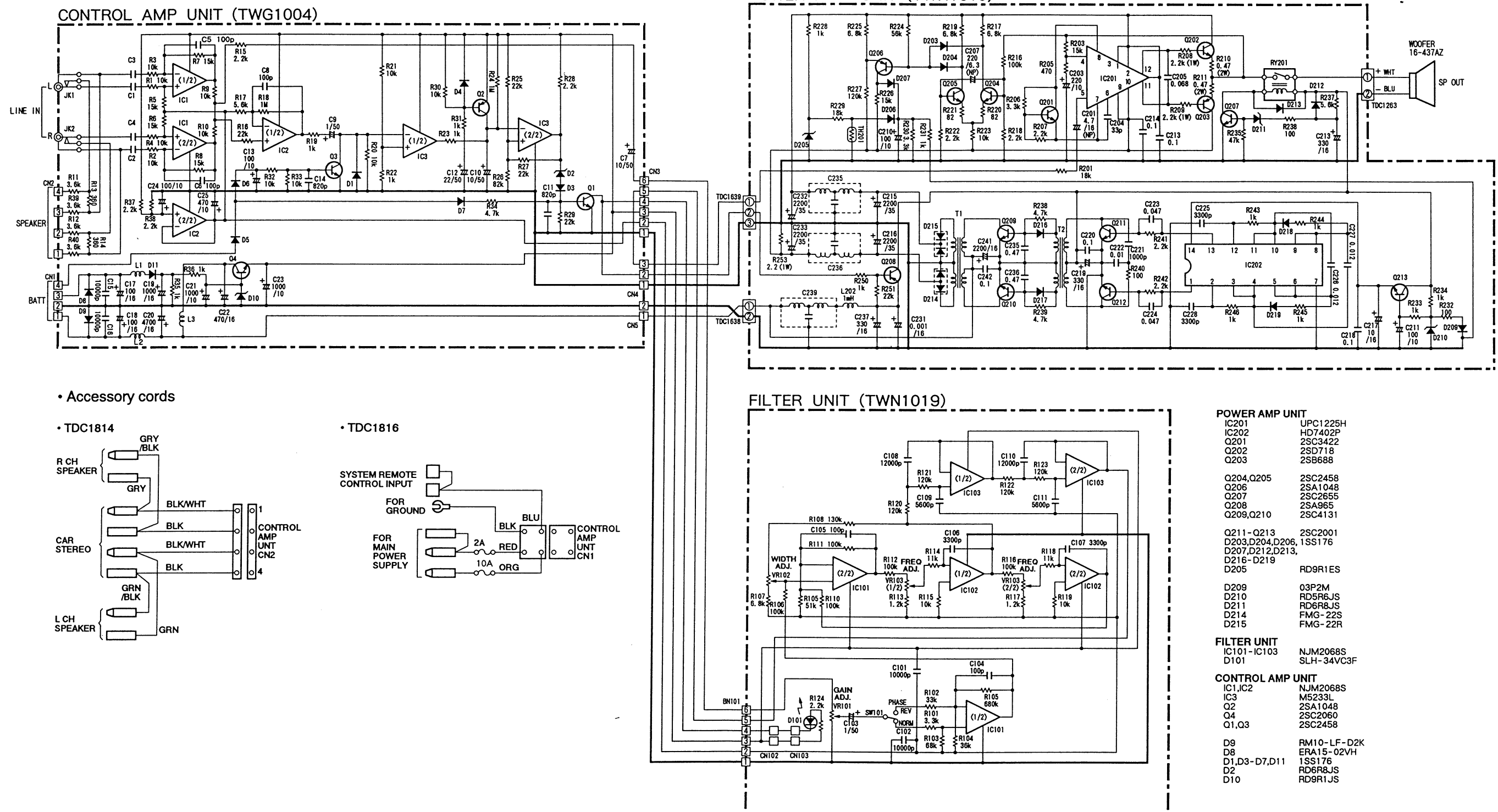
BUSHING	TEB1130
BRACKET	TNA1187
INSULATOR	TNM1003
INSULATOR	TNM1004
CORD	TDC1638

CORD	TDC1263
CORD	TDC1639
CORD	TDC1419



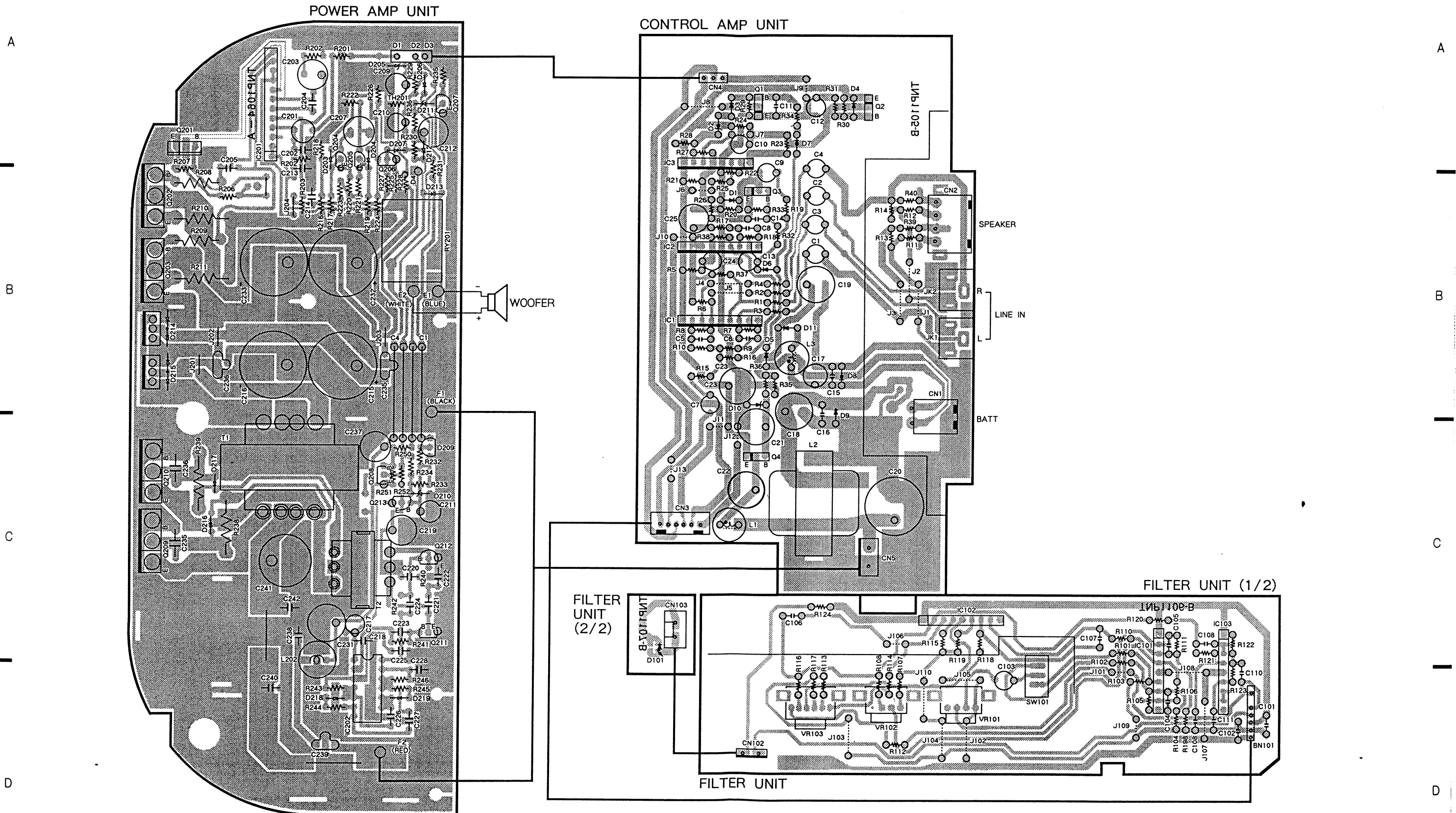
# 6. SCHEMATIC AND PCB CONNECTION DIAGRAMS

## 6.1 SCHEMATIC DIAGRAM





6.2 PCB PATTERNS



This P. C. B. connection diagram is viewed from the foil side.



## 7. PACKING AND PARTS LIST

### Parts List

Mark	No.	Description	Part No.	Remarks
	1	Holder	TNA1088	× 2
	2	Parts bag (Screws)	TEA1249	× 1
NSP	3	Parts bag assembly	TXH1391	× 1
	3-1	Cord	TDC1814	× 1
	3-2	Cord	TDC1816	× 1
	5	Belt	TNA1203	× 1
		Styrofoam protector	TEC1643	One pair
		Packing case	THF2004	× 1

### • Including parts

